UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIRMAN

May 18, 2005

The Honorable Edward J. Markey
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am writing you to follow-up on our March 17, 2005, letter concerning the two radioactive sources imported from Russia by Halliburton Energy Services that were unaccounted for from October 9, 2004, to February 9, 2005. In accordance with a commitment made in that letter, I wanted to provide you with the results of inspections of Halliburton that were conducted by the NRC and the State of Texas Department of Health.

As I noted in the March 17, 2005, letter, the State of Texas, as an Agreement State regulator, completed an inspection of the Halliburton facility in Houston the week of February 28, 2005. A copy of the State's Field Activity Report is enclosed. NRC Region IV completed the scheduled inspection of Halliburton, relative to the Security Orders issued to licensees who manufacture and distribute sources, the week of March 14, 2005. A public version of that inspection is enclosed as well.

Please note that a number of the issues you raise involve actions by the carriers (airlines, trucking companies, etc.), or storage incidental to transportation, which are subject to U.S. Department of Transportation (DOT) regulation and oversight. In that regard, the NRC will forward a copy of your February 10, 2005, letter; our initial response; and the NRC and Agreement State inspection reports to the DOT for their consideration. In addition, we will discuss the DOT's follow-up on carrier actions with them at the staff level and offer our availability for further assistance. We also plan to discuss with the DOT the adequacy of the requirements with respect to control of radioactive materials in transit and reporting of "missing" shipments.

If you have further questions regarding this matter, please feel free to contact me.

Sincerely,

Nils J. Diaz

Enclosures:
As stated

FieldAct.dot
Rev. 10/20/2004

Texas Department of State Health Services
Inspection Unit
Field Activity Report

Activity Date **03/03/2005**

(Use this form for Field Activities only) Compliance No. =>

Name and Address of Licensee **HALLIBURTON ENERGY SERVICES INC** **ATTN D DWAINE BROWN** **P O BOX 60070** **HOUSTON TX 77205**	License No.: **L00442-** Issued In: **Texas** Expiration Date: Inspection Region: **6** Use Code: **053** Type of Use: **well logging, sealed source**
Address of Activity	Activity Description: R. S. O. RSO Phone No. **2818715745** Site Phone No.
Compliance Notice to (Name, Title, Address)	Copy of Notice to (Name, Title, Address)
Incident #: **N/A**	
Persons contacted:	
Accompanying Inspector(s)	
Inspector: **D. Ray Jisha**	Reviewed by:
Report Date: **03/11/2005**	Date Reviewed:

March 3, 2005, Halliburton notes from Dwaine Brown, RRPT, Global Lead Radiation Safety Officer (RSO);Updated after interview with Elizabeth Foltz, RSO, L00442, Halliburton Energy Services, March 15&16, 2005 in Houston, TX at the corporate offices.

On February 8, 2005, Halliburton reported lost sources. The 18.5Ci AmBe well-logging source and a 0.5mCi AmBe calibration source shipment originated in a field camp in Russia where it was used under proper authority of a Radioactive Material License issued to Halliburton from that country. From there it arrived in Moscow on September 8, 2004. After passing through Amsterdam and Luxemburg the package cleared customs in New York at JFK airport on October 9, 2004. [It must be noted that arrangements for shipping the sources was contracted out to another party by Halliburton.] This shipment under Department of Transportation (DOT) rules was required to have a "yellow III" label with a Transport Index of 8 and the complete package consisted of a 85kg Type A container. It appears that due to the far more stringent DOT requirements for "Yellow III" shipments, there is now great difficulty nationwide in securing a shipper or carrier for any of these packages. As such the contractor insisted that they could not secure a shipper and the package sat at JFK and presumably the airport holding area at Newark NJ. It was not until February 8, 2005, a period of some four months, that the licensee's RSO made a determination that the shipment was actually lost or misplaced to the point that it could not be located. At all times prior to this date, the licensee was given solid assurance that the package was properly stored in the haz-mat areas of these respective airports. However at sometime during this period, the adhesive type "Yellow III" labels presumably separated and apparently curled off the shipping container. [It should be noted that the DOT required markings on the container remained in tact at all times.] One scenario suggested is that a shipper who was charged with transporting another 85kg package to Boston, mistook that cargo for the Halliburton sources and shipped the Halliburton package to Mass.

The Nuclear Regulatory Commission (NRC) HOO was notified February 8, 2005 and the situation was classified as a "NON EMERGENCY, LOST/STOLEN source LNM>1000X 10CFR Section:20.2201(a)(1)(i)". On February 9th the licensee was notified that shipment was in Boston and on the 10th the RSO flew to Boston and verified the same. Arrangements by the RSO was secured that day and the shipment was successfully received intact in Houston, TX February 12, 2005. Video cameras purportedly documented the movements of the package to Boston. Further, the shipping container was never compromised, the container was stored in appropriate haz-mat designated areas, and the air freight workers or members of the public were apparently never under any more significant threat than is posed with other like shipments. In essence, the package was in transit and thus subject to federal DOT rules during the entire five month period having never been received by a licensee or under the possession of any licensee.

Form CI-12
Rev. 10/20/2004

Texas Department of State Health Services
Inspection Unit
Compliance Activity Data Form

Permit Data:

Permit Type and Number	Site Number	*URGENT - ROUTE TO:*
L00442		

Activity City	Prime Use Code

Name
HALLIBURTON ENERGY SERVICES INC

Activity Data:

Activity Code	Inspection Use Code	Activity Date	
	053	**03/03/2005**	

Inspector Name	Activity Description	
D. Ray Jisha		

Preparatory	Travel	Waiting	Activity	Report	Total	Cost
0.0	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**$ 0.00**

Inspector Comments

Low Level Waste*: Record Volume in cubic feet (ft^3), [55 gallon drum = 7.35 ft^3].

Volume Generated/Year	Principle isotopes, form, and approximate activities of each

Volume in Storage	Principle isotopes, form, and approximate activities of each

* Do not record waste that can be held for decay and disposed of in a landfill.

Review Data:

Inspection Status Press F4	Next Due Date (required if "Special" inspection status is selected)

	Code	Count	S L	Code	Count	S L	Code	Count	S L	Code	Count	S L
1st												
5th												
9th												

Reviewer Comments

Reviewer	Date Reviewed	Data Entry	Date Entered

INSPECTION REPORT

Licensee: Halliburton Energy Services (HES), Houston, TX

Dates of Inspection: March 15-18, 2005

Inspectors: Robert A. Brown/Janine F. Katanic, NRC Region IV

Note: During portions of this inspection, the inspectors were also accompanied by Mr. D. Ray Jisha, from the Texas Department of State Health Services (DSHS) Incident Investigation and Environmental Program.

Inspection Scope:

During the conduct of an inspection related to Orders issued by NRC on November 25, 2003, and January 12, 2004, the inspectors reviewed an event reported by the licensee to the NRC Operations Center on February 8, 2005 (Event Number 41387). This portion of the inspection consisted of interviews with the licensee's Facility Radiation Safety Officer (FRSO), a review of the event, and a selective examination of representative records and procedures.

Observations and Findings:

On September 9, 2004, an HES subsidiary in Nazhevartovsk, Russia, shipped two radioactive sources to the HES facility in Houston, Texas. The sources were an 18.5 Ci Am-241/Be source and a 0.5 Ci Am-241/Be source and were contained in one package for shipment. Per HES procedure, the shipper used the licensee's electronic inventory tracking system to execute the transfer of the package from Russia to Houston. The FRSO received an email message generated by the electronic inventory tracking system regarding the shipment and began to track it. Additionally, the shipper also received an email from the licensee's electronic inventory tracking system that indicated the package had been shipped so that they could track it to its destination.

The shipment was being handled by **Company A**. Specifically, HES had a corporate contract with **Company A** to coordinate and arrange all international shipments between HES and its subsidiaries. Through the contract, **Company A** is responsible for making arrangements for U.S. Customs clearance and for sub-contracting with other companies to provide the appropriate shipment mode including trucking, cargo vessel, and air freight. For several years, HES had used **Company A** as a freight forwarder and found them to be dependable.

From September 9, 2004 until February 8, 2005, the FRSO, as well as personnel from the HES subsidiary in Russia, tracked the shipment. For example, on November 18, 2004, HES-Moscow requested from **Company A** a status update on the shipment. Likewise, on December 14, 2004, the FRSO requested a status update on the shipment from **Company A**. These are just examples of the numerous inquiries that HES made in an effort to track the package. The package was known to have cleared U.S. Customs on October 9, 2004, and the licensee was persistent in trying to determine the status and get the sources shipped to the Houston facility. The licensee was repeatedly told by **Company A** that they were working on arranging shipment of the sources from JFK to Houston. Late January - early February 2005,

HES was still Inquiring as to the status of the shipment. It became evident that **Company A** was having trouble locating the package. They attributed this to the fact that **Company C** had moved their JFK warehouse facility to another location. They initiated physical searches of the facility to look for the package and began requesting that their contracting freight forwarders do the same. On February 8, 2005, the FRSO became concerned that **Company A** could not locate the package. The FRSO notified the HES Corporate/Global Radiation Safety Officer (RSO) that the package could not be accounted for. In turn, the HES Global RSO called the NRC Operations Center to report the missing package and he believed it would prompt NRC assistance in locating the package.

The event notification to the NRC brought to bear State and Federal resources, including the FBI, that were instrumental in locating the package. The package was located at **Company D's** facilities in Boston, Massachusetts. Apparently, the package was trucked to Boston when an improper label was placed on the package. After the package was located, the HES Global RSO went to Boston and verified that the sources and shielding were intact. At that time, arrangements were made for the package to be transported to HES-Houston. The package was delivered to the HES-Houston facility on February 14, 2005.

During the inspection, the FRSO stated that she did not think of DOT being involved because the package was supposedly stationary at the JFK facility. In hindsight it was realized that although the package was not in active transport, it still should have been considered in transit and perhaps DOT could or should have been involved. Additionally, and again based upon the circumstances regarding the stationary status of the shipment, the FRSO stated that she was unclear regarding the applicability of DOT regulations and requirements. She also stated that they rarely have any DOT interactions concerning international shipments.

Conclusions:

Though the licensee electronically tracked the shipment of radioactive sources, they in fact had little actual control of them. They relied on **Company A** , their contracted service provider, to transport the sources using whatever means appropriate or necessary to complete the shipment. The HES facility that ships sources as well as the HES facility that receives sources were often unaware of the specifics of the routing of each shipment.

Other issues compounded this event which resulted in the missing package. For example, the HES Procurement Management and Logistics Department, who were experts in the shipment of goods and equipment, did not routinely involve themselves in shipments involving radioactive materials; instead they relied on the radiation safety staff to make shipping arrangements and tracking.

Since this event, HES has revised its global shipping guidelines for radioactive materials. These guidelines more clearly define the roles and responsibilities of the various groups within HES and designates **Company B** to serve as the lead logistics provider for HES to manage or handle the shipment of radioactive sources to the USA from non-NAFTA countries. **Company B** has committed in the future to communicate any deviation from original shipment plans to the appropriate HES personnel.

Over the past several years, HES has been developing a tracking system for radioactive sources. The project is still under development. The tracking system involves sensors that are mounted to packages which can then be tracked by satellite and be electronically monitored by HES personnel. A resource such as this would have been valuable in tracking this shipment.

Licensee Personnel Contacted:

Elizabeth Foltz, Facility Radiation Safety Officer